

# Seneca Lake Rainbow Trout

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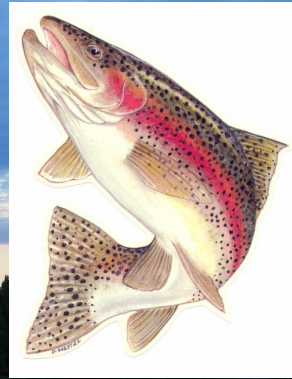
## Abstract:

The purpose of this study is to explore Seneca Lake fish populations and their affect on tourism within the Seneca Lake Watershed. The target fish population examined within this study is Rainbow Trout (*Oncorhynchus mykiss*). Rainbow Trout populations are relatively low in comparison to the over-abundant lake trout. This species is an essential population for Seneca Lake, allowing anglers a wider range of diversity of catch. This survey also compares the impact of native and invasive species, such as the Zebra and Quagga Mussels, in Seneca Lake on rainbow trout, the nutrient cycle of the lake, sea lamprey netting, fishing competitions, hatcheries, and regulations for protecting the species. This study focused on Catherine Creek, the primary spawning ground of rainbow trout. Maintaining healthy fish populations in Seneca Lake is estimated to have generated \$8.5 million dollars, spent by anglers, in 2007. These expenses come in through charter boats, fishing items such as bait and through competitions including the famous Lake Trout Derby. In order to keep rainbow trout species from failing, the NYSDEC has proposed the stocking of Catherine Creek with 15,000 fish over a period of 5 years as well as a 33% reduction in current stocking levels of lake trout.

## New Regulations:

- Reduce the creel limit of rainbow trout in the tributaries from 3 to 1 per day.
- Reduce the creel limit of rainbow trout in the lakes from 5 to 1 per day.
- Remove the restriction in daily limit where no more than 3 lake trout may be harvested as part of the 5 trout and salmon allowed and allow up to 5 lake trout to be harvested per day.

New regulations come into effect in October 2012

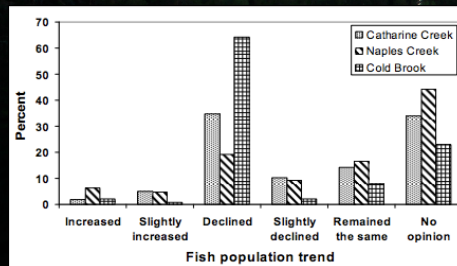


## Nutrient Cycle:

Zebra/Quagga mussels were introduced in 1992, and the early 2000's respectively. Filter feeders which made contact through the discharge of ballast tanks. Increase water quality by eating algae and nutrients. Therefore with low amounts of food due mostly to Quagga Mussels, this has resulted in high catch rates. These high catch rates lead to lake trout becoming predators to rainbow trout. Catch times have reduced to 1.5 hours while rainbow trout catch times have increased to 2.3 hours for the first time in 15 years. With hopes of stocking, and new regulations, rainbow trout can become a thriving population.

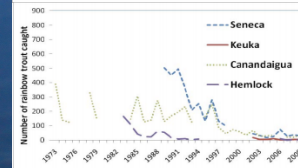
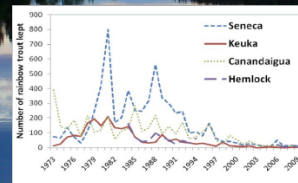
## Bath Hatchery:

The proposed rainbow trout to be stocked in Catherine Creek and Cold Brook will be obtained from Cayuga Lake. The annual production of all the species at Bath Hatchery, located in the village of Bath in Steuben County, is 86,000 pounds of fish. The fish will be placed directly into Catherine Creek and Cold Brook instead of into the lake. Previous attempts at stocking Seneca Lake with rainbow trout have failed due to placement. Stocking the fish directly into the lake will hopefully allow them to return during spawning times (March through early July). Catherine Creek will be stocked with yearling (6-9 inches in length) and Cold Brook will be stocked with fingerlings (3-5 inches in length).



Angler perception of the trout populations trends over the last ten years in Catherine and Naples Creeks and Cold Brook 1 April – 28 March, 2008. (Hammers)

The results from the Angler Diary Program survey show that nearly 70% of the anglers fishing for rainbow trout felt the population decline of the past 10 years. This awareness and concern goes to show the importance of the species to the lake. Being the 8<sup>th</sup> most fished waterbody in New York State, an estimated 344,000 angler days occurred in 2007. Meaning a significant amount of fishing occurs on Seneca Lake.



Number of rainbow trout caught and kept by anglers in the Angler Diary Cooperator program from Seneca, Keuka, Canandaigua and Hemlock Lakes from 1973-2009. (Hammers)

Rainbow trout population is not in complete danger of failure but shows rapid decrease. To combat this, the NYSDEC will decrease lake trout stocking by 33% (28,000 fish) and will stock Catherine Creek and Cold Brook with 15,000 and 5,000 fish respectively, all with tags over a period of 5 years.

Rainbow trout (*Oncorhynchus mykiss*) is a salmonid not native to the Seneca Lake region. Rainbow Trout were introduced into Seneca Lake in 1910 to promote tourism. This species over the years has encouraged more anglers to travel to central New York, diversifying the species available to catch. Thus, increasing revenue in the surrounding Seneca Lake area. Rainbow trout spawn after two to three years. Ideal breeding ground in Seneca Lake watershed is Catherine Creek and Cold Brook due to its low topography. It is an easy spawning ground due to its lack of impassable falls. In Catherine Creek, each rainbow trout nest contains between 200-8,000 eggs. Rainbow trout make up 5% of total catch every year.

50% of the total catch of rainbow trout occurs in the tributaries. New regulations that limit the number of rainbow trout to be taken from these areas will significantly increase the population. Sea lampicide application every 5 years since 1982 has also helped increase rainbow and lake trout populations. Lake Trout Derby has helped curb predation since 1965 inadvertently as well as contribute to the surrounding communities on Seneca Lake.